ASSIGNMENT 6

Textbook Assignment: "Fuel System Overhaul," and "Inspecting and Troubleshooting Brake Systems," pages 5-27 through 6-18.

6-1. When you are rebuilding a PT type of fuel pump, parts should be discarded at what time?

1. When they show minor wear
2. Only after they break
3. When they are worn beyond replacement limits
4. At each overhaul

6-2. To prevent goring of the PT fuel pump and pump parts in reassembly, the mechanic should use which of the following means?

1. Spring steel lock washers
2. Flat steel washers
3. Extreme pressure lubricant
4. Torque wrench

6-3. When a PT pump has been rebuilt, it should be run at 1,500 rpm for how long to allow the bearings to seat?

1. 2 minutes
2. 5 minutes
3. 10 minutes
4. 1 hour

6-4. While being tested, a PT fuel pump fails to develop specified manifold pressure. Which of the following conditions could contribute to the failure?

1. An air leak in the suction line
2. A closed valve in suction line
3. A fuel oil temperature higher than 100°F
4. Each of the above

6-5. You are trying to find maximum manifold pressure at full throttle of a newly rebuilt PT fuel pump. With the pump running at 1,500 rpm, you should take which of the following actions?

1. Turn the rear throttle stop screw
2. Turn the shims under the idle spring
3. Turn the idle spring to new position
4. Turn the idle speed screw until the idle spring is compressed

6-6. After setting the PT fuel pump idle speed, the mechanic can change its idle pressure by taking which of the following actions?

1. Adding or removing shims from the idle spring
2. Turning the idle speed screw
3. Turning the throttle screws
4. Locking the throttle in the shutoff position

6-7. The amount of fuel a PT injector delivers to the combustion chamber will be affected by changes in which of the following areas?

1. The fuel pressure
2. The size or shape of injector orifices
3. Timing
4. Each of the above

66-8. When servicing a PT fuel injector, you should NOT take which of the following actions?

1. Plug the inlet and drain connection holes of the injector before mounting on the test stand
2. Clean injector orifices with wire
3. Dip a solvent–cleaned injector into mineral spirits
4. Insert a new gasket between the cup and body of the injector during assembly

6-9. When the fuel is flowing upward through the cup spray holes, the maximum pressure applied to check plunger clearance should not exceed what maximum amount?

1. 500 psi
2. 1,000 psi
3. 1,500 psi
4. 2,000 psi

6-10. In a PT type of fuel injector, the plunger and cup is not lapped for what reason?

1. It disturbs the fuel metering
2. It will cause the injector to clog
3. It will ruin the plunger bore
4. It will cause the cup to cock to one side

6-11. Superchargers and turbochargers pump a greater amount of air into an engine than could be supplied by normal atmospheric pressure. What is the effect on fuel consumption and power?

1. More fuel is burned; power is decreased
2. Less fuel is burned; power is decreased
3. More fuel is burned; power is increased
4. Less fuel is burned; power is increased

6-12. Before a blower-equipped air induction system can be inspected, what component, if any, must be removed?

1. The air inlet housing or air silencer
2. The flywheel housing
3. The freshwater pump
4. None

6-13. The rotors of a blower are burred but not badly scored. If the burrs interfere with operation of the blower, the mechanic should take which of the following actions?

1. Dress down the rotors after removing the blower from the engine
2. Dress down the rotors without removing the blower from the engine
3. Remove the blower from the engine and replace the rotors

6-14. When a gearset of a General Motors diesel blower is removed, damage is avoided in what way?

1. By your removing the right gear first
2. By your removing the left gear first
3. By your removing both gears at the same time

6-15. After washing a blower ball bearing with cleaning solvent, the mechanic should clean the balls and races of the bearing by using which of the following procedures?

1. Spinning them dry with compressed air
2. Directing air through the bearing and rotating it by hand
3. Wiping them with a clean cloth

IN ANSWERING QUESTIONS 6-16 THROUGH 6-19, SELECT FROM COLUMN B THE CAUSE OF THE BLOWER CONDITION SHOWN IN COLUMN A. RESPONSES IN COLUMN B MAY BE USED ONCE, MORE THAN ONCE, OR NOT AT ALL.

	A. CONDITIONS	B. CAUSES
6-16.	Inside surface of the blower housing covered with oil	1. Plugged drain tube
6-17.	Rotor lobes rubbing throughout their entire length	2. Loose rotor shafts or damaged bearings
6-18.	Liquid on air box floor	3. Leaking seal
6-19.	Scoring between rotors and blower housing	4. Excessive backlash in blower timing gears

6-20. If worn or damaged, which of the following blower parts must be replaced as a matched set?

1. Oil seals
2. Double-row bearing
3. Timing gears
4. End plates

6-21. The mechanic should replace blower parts that an inspection shows to be worn or excessively damaged.

1. True
2. False

6-22. Supercharger seals must be changed in which of the following situations?

1. When wet oil appears at the ends of the rotors
2. When wet oil appears at the ends of the supercharger outlet connectors
3. When oil from the vapor tube shows on the rotors
4. At any time oil appears inside the supercharger housing

6-23. When the rotors, rotor shafts, and end plates of a supercharger are cracked and broken, the mechanic should take which of the following actions?

1. Discard the supercharger and replace it with a new one
2. Replace only the rotors and shafts; repair the end plates
3. Replace the damaged parts separately except for the rotors and shafts, which are replaced as a matched set

6-24. The drive coupling of the supercharger should be replaced under which of the following conditions?

1. The coupling pins are worn
2. The hub surface is grooved
3. The rotors and gears are not within the required tolerances

6-25. When, if ever, should engine lubricating oil be added to the gear end plate of a supercharger that is being reconditioned?

1. After it is completely reassembled, but before it is installed on the engine
2. After it is completely reassembled and installed on the engine
3. As it is being reassembled
4. Never

6-26. The overheating of the thrust and journal bearings of a supercharger can result from which of the following causes?

1. Foreign particles in the exhaust system
2. Lack of lubricating oil
3. Foreign matter in the air induction system
4. Each of the above

6-27. When oil contamination has caused damage to a turbocharger, where should you look for the cause?

1. A clogged oil filter
2. An open turbocharger lubrication valve
3. A malfunctioning filter bypass valve
4. Each of the above

6-28. The turbine and compressor wheels on a turbocharger may rotate at up to what speeds in mph?

1. 75
2. 100
3. 150
4. 200

6-29. To remove carbon deposits that remain on turbocharger parts after they have soaked in mineral spirits, a mechanic should use which of the following methods?

1. Steam
2. Wire brush
3. Soft bristle brush
4. Compressed air

6-30. If damaged, the replacement of the main turbocharger main casing may be required for which of the following parts?

1. The exhaust casing
2. The turbine casing
3. The floating bearing

6-31. The oil seal plates of a turbocharger are replaced often since they wear out fast.

1. True
2. False

6-32. The rotor assembly of a turbocharger must be rebalanced when which of the following parts are replaced?

1. The turbine wheel and shaft
2. The sleeve and compressor wheel
3. The thrust washer and locknut
4. All of the above

6-33. When mounting the turbocharger, the mechanic can make sure it is in the proper operating position on the engine by following which of the following procedures?

1. Locating the air inlet to the right of the turbocharger vertical center line
2. Locating the air inlet to the left on the turbocharger vertical center line
3. Locating the oil outlet 45° or more below the turbocharger horizontal center line
4. Locating the oil outlet 45° or more above the turbocharger horizontal center line

6-34. Engines are hard to start in cold weather for which of the following reasons?

1. Reduced fuel flow
2. Low fuel volatility
3. High fuel volatility

6-35. In a gasoline fuel injected engine, extra fuel for cold weather starting is introduced by which of the following devices?

1. The fuel injector
2. The air heated choke
3. The electric choke
4. The thermistor

6-36. In the actuation of the choke device, the electronic control module provides what type of voltage to the thermistor?

1. A high-voltage impulse
2. A low-voltage signal
3. A high-voltage signal

6-37. Some diesel engines have a glow plug that is turned on by the ignition switch. The glow plug is turned off by what means?

1. By the ignition switch
2. By your releasing the glow plug switch
3. By a timed relay

6-38. In a manifold flame heating system, two solenoids ensure that fuel is delivered at which of the following times?

1. Only when the system is operating
2. Before the engine turns over
3. Just before and just after the heater is activated

6-39. When may ether be used as a diesel engine cold starting aid?

1. In extreme cold weather only
2. In extreme emergencies only
3. At any time

6-40. Braking systems are usually inspected yearly after what maximum number of miles?

1. 6,000
2. 8,000
3. 12,000
4. 15,000

6-41. In the field, you discover a brake problem on a vehicle. What should you do with the vehicle?

1. Drive it to the CM shop
2. Drive it to the dispatch yard
3. Tow it to the CM shop
4. Tow it to the deadline

6-42. Under what circumstances would copper tubing be used in a brake system?

1. Under no circumstance
2. For use on augment equipment only
3. For use on construction equipment only
4. For use on equipment without power brakes

6-43. When testing for leakage in a hydraulic brake system, you must depress and hold the brake pedal for at least how long?

1. 1 minute
2. 2 minutes
3. 4 minutes
4. 5 minutes

6-44. CESO maintenance bulletin #75 directs the Naval Construction Force to use which of the following fluids or materials?

1. Glycol brake fluid
2. Silicone brake fluid
3. Non-asbestos brake pads

6-45. Brake drums that have been worn or machined past their discard diameter or thickness must not be used.

1. True
2. False

6-46. Which of the following conditions could indicate brake problems where none, in fact, exist?

1. Loose wheel bearings
2. Worn front end parts
3. Low tire pressure
4. All of the above

IN ANSWERING QUESTIONS 6-47 THROUGH 6-51, REFER TO FIGURE 6-1 IN YOUR TRAMAN.

6-47. Excessive clearance between the linings and drums would be indicated by which of the following conditions?

1. A low pedal
2. A high pedal
3. A soft pedal
4. A hard pedal

6-48. A springy brake pedal could be an indication of which of the following problems?

1. Grease on the brake lining
2. Air trapped in the system
3. A plugged master cylinder fill cap
4. Each of the above

6-49. A pulsating brake pedal could be caused by which of the following problems?

1. Drums out of round
2. A bent rear axle
3. Loose wheel bearings
4. All of the above

6-50. The locking up of a single wheel when you are braking could result from which of the following causes?

1. Worn and slick tire tread
2. A defective master cylinder
3. Air trapped in the hydraulic system
4. Improper brake fluid

6-51. Which of the following problems could cause brake squeak?

1. Dirty brakes
2. Scored drums
3. Loose lining rivets, or lining not held tightly against the shoe
4. Out-of-round drums

6-52. Which of the following statements provides a good description of pedal reserve?

1. The full travel of the brake pedal
2. 1/4 travel of the brake pedal
3. 1/2 travel of the brake pedal
4. The distance from the pedal to the floorboard with the brakes applied

6-53. Both rear brakes may drag as a result of which of the following problems?

1. A frozen emergency brake cable
2. An over-full master cylinder
3. A jammed wheel cylinder

6-54. A brake drum that is cut too thin will cause which of the following problems?

1. No brakes
2. A soft brake pedal
3. A pulsating brake pedal
4. A hard brake pedal

6-55. After completing repairs to a brake system, you should take which of the following actions first?

1. Close out the ERO
2. Road test the vehicle
3. Reset the brake failure warning light

6-56. On a power brake system with a vacuum booster, if the air valve sticks, what, if anything, will occur?

1. The brakes will fail to release
2. Slow braking application
3. The brakes will not function at all
4. Nothing

6-57. In a brake system that uses a vacuum booster, a hard pedal could indicate which of the following situations?

1. Normal brakes
2. Internal damage to the vacuum booster
3. Worn brake linings

6-58. In a brake system using a vacuum booster, a hydraulic leak may not be seen for which of the following reasons?

1. The brake fluid evaporates
2. The fluid is drawn into the intake manifold and burnt in the engine
3. The brake fluid collects in the power booster
4. Both 2 and 3 above

6-59. A standard power booster will not work with a diesel engine for which of the following reasons?

1. Not enough usable vacuum is created
2. Too high a vacuum is created
3. Low volume vacuum is created

6-60. On a vehicle using a hydroboost power brake system, hydraulic pressure is created by which of the following means?

1. A separate hydraulic pump
2. A power steering pump
3. A power boost cylinder

6-61. In the event of a hydroboost power brake system failure, the spring-loaded accumulator will provide for a total of how many power brake applications?

1. Five
2. Two
3. Three
4. Four

6-62. When the power steering belt breaks in a hydroboost power brake system, which of the following situations will occur?

1. There will be no braking action
2. A high pedal effort will be felt
3. A soft pedal effort will be felt
4. The pedal will travel to the floor

6-63. Excessive noise in a hydroboost power brake system could be caused by which of the following problems?

1. Air in the system
2. A loose fan belt
3. A loose power steering belt
4. Wrong fluid in the system

6-64. What is the normal accumulator pressure of a hydroboost power brake system?

1. 600 psi
2. 1,000 psi
3. 1,400 psi
4. 1,800 psi

6-65. The stopping distance of construction equipment and heavy trucks is greater due to which of the following factors?

1. Increased weight of the equipment
2. Increased payload weight
3. Increased length of the equipment
4. Both 1 and 2 above

6-66. An air brake system should build up to safe operating pressure in what maximum number of minutes?

1. 5
2. 7
3. 10
4. 12

6-67. When you are applying the brakes during an air leakage test, the air pressure should NOT drop more than (a) what number of pounds in (b) how many minutes?

1. (a) 1 (b) 1
2. (a) 2 (b) 2
3. (a) 3 (b) 1
4. (a) 5 (b) 5

6-68. You should check for air leaks that are not audible by using which of the following means?

1. Your hand
2. Soapy water and a brush while watching for bubbles
3. A light oil and a brush while watching for bubbles

6-69. The automatic application trailer brakes must hold a vehicle for what length of time?

1. 5 minutes
2. 10 minutes
3. 15 minutes
4. 20 minutes

6–70. In an air-over-hydraulic power braking cylinder, excessive hydraulic pressure would likely be caused by which of the following parts?

1. A damaged relay piston sleeve
2. Swollen piston sealing cups
3. A striking relay piston

6-71. In an air-over-hydraulic power braking cylinder, internal air leakage is considered excessive if there is a pressure drop of 2 psi in what number of seconds?

1. 10
2. 15
3. 20
4. 25

6-72. On construction equipment, the drive line brakes are usually mounted in which of the following locations?

1. A parking pawl located inside the transmission case
2. Directly on the drive line
3. On the wheel

6-73. When compared to an emergency braking system that is interconnected with the rear service brakes, a drive line emergency braking system has greater holding power for what reason?

1. Larger brake shoes
2. The braking force is multiplied through the final drive system
3. They use a disc brake system

6-74. A parking brake that is interconnected with the service brake is usually found on what type of equipment?

1. Construction
2. Automotive
3. MHE
4. Augment

6-75. Emergency brake requirements may be found in which of the following publications?

1. NAVFAC P-300
2. NAVFAC P-404
3. Federal Motor Carrier Safety Handbook
4. NAVFAC P-314